

# UP05C8GG

Silicon NPN epitaxial planar type (Tr)  
Silicon epitaxial planar type (CCD load device)

For CCD output circuits

## ■ Features

- Two elements incorporated into one package (Tr + CCD load device)
- Costs can be reduced through downsizing of the equipment and reduction of the number of parts.

## ■ Basic Part Number

- 2SC3932G + CCD load device

## ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter		Symbol	Rating	Unit
Tr	Collector-base voltage (Emitter open)	$V_{CBO}$	30	V
	Collector-emitter voltage (Base open)	$V_{CEO}$	20	V
	Emitter-base voltage (Collector open)	$V_{EBO}$	3	V
	Collector current	$I_C$	50	mA
CCD load device	Limiting element voltage	$V_{max}$	40	V
	Limiting element current	$I_{max}$	10	mA
Overall	Total power dissipation *	$P_T$	125	mW
	Junction temperature	$T_j$	125	$^\circ\text{C}$
	Storage temperature	$T_{stg}$	-55 to +125	$^\circ\text{C}$

Note) \* : Measuring on substrate at 17 mm × 10 mm × 1 mm

## ■ Package

### • Code

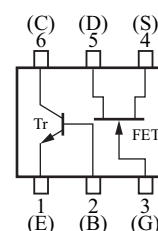
SSMini6-F2

### • Pin Name

1: Emitter	4: Source
2: Base	5: Drain
3: Gate	6: Collector

## ■ Marking Symbol: 4V

## ■ Internal Connection



# ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

## • Tr

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{\text{CBO}}$	$I_{\text{C}} = 100\ \mu\text{A}$ , $I_{\text{E}} = 0$	30			V
Emitter-base voltage (Collector open)	$V_{\text{EBO}}$	$I_{\text{E}} = 10\ \mu\text{A}$ , $I_{\text{C}} = 0$	3			V
Base-emitter voltage	$V_{\text{BE}}$	$V_{\text{CE}} = 10\ \text{V}$ , $I_{\text{C}} = 2\ \text{mA}$		720		mV
Forward current transfer ratio	$h_{\text{FE}}$	$V_{\text{CE}} = 10\ \text{V}$ , $I_{\text{C}} = 2\ \text{mA}$	25		250	—
Transition frequency *	$f_{\text{T}}$	$V_{\text{CB}} = 10\ \text{V}$ , $I_{\text{E}} = -15\ \text{mA}$ , $f = 200\ \text{MHz}$	800		1 200	MHz
Power gain	PG	$V_{\text{CB}} = 10\ \text{V}$ , $I_{\text{E}} = -1\ \text{mA}$ , $f = 100\ \text{MHz}$		20		dB

Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

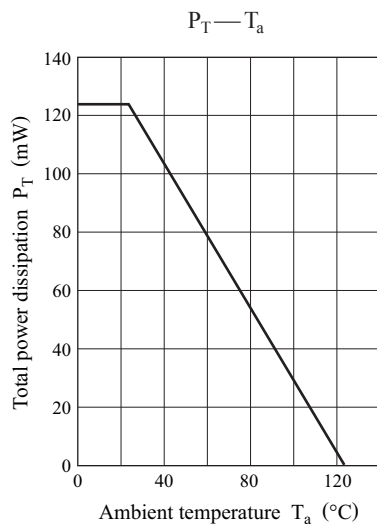
\*: Pulse measurement

## • CCD Load Device

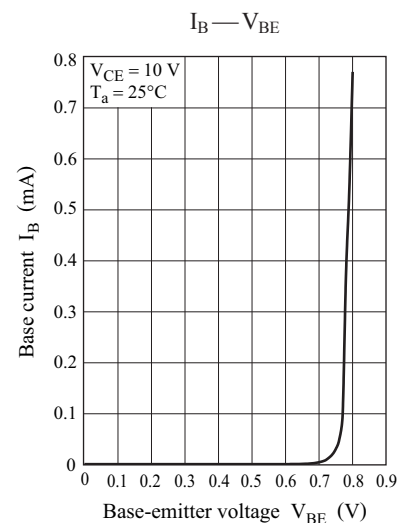
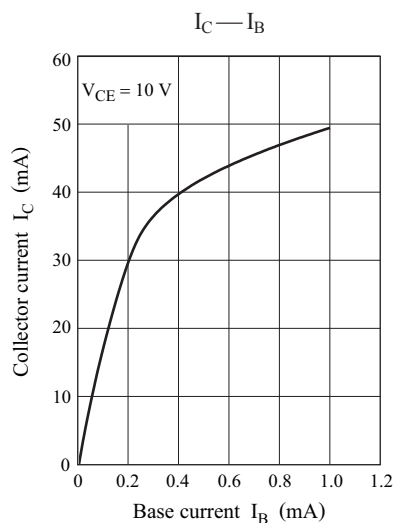
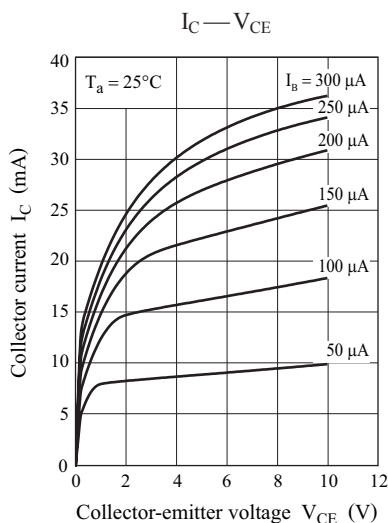
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Pinchi off current	$I_{\text{P}}$	$V_{\text{DS}} = 10\ \text{V}$ , $V_{\text{G}} = 0$	3.5		5.5	mA
Output impedance	$Z_{\text{O}}$	$V_{\text{DS}} = 10\ \text{V}$ , $V_{\text{G}} = 0$		0.05		$\text{M}\Omega$

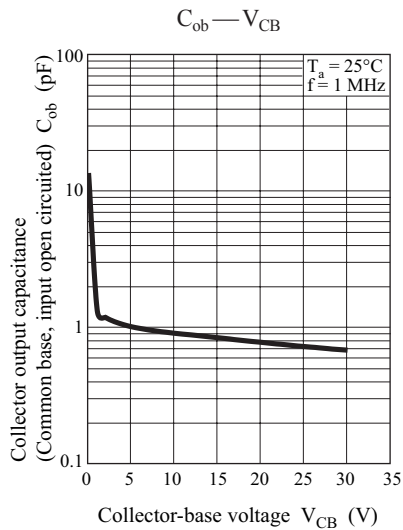
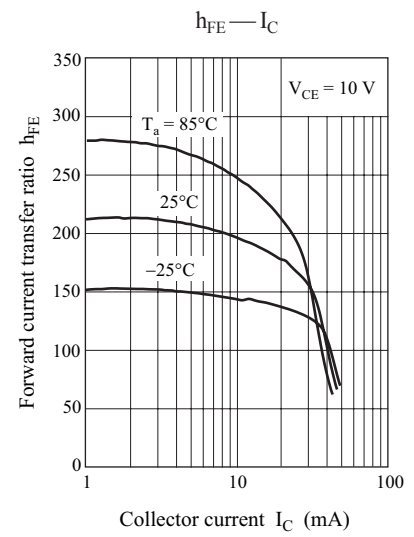
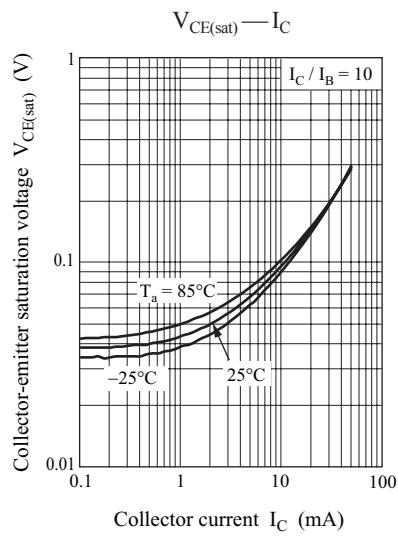
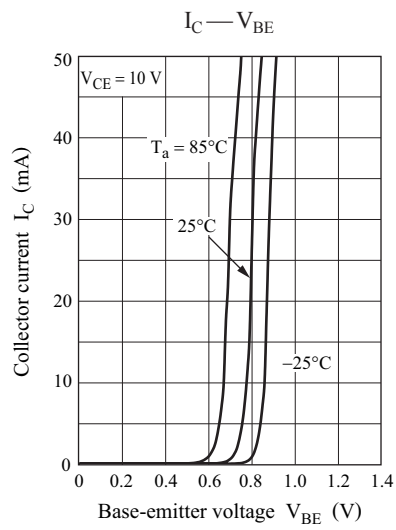
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

### Common characteristics chart

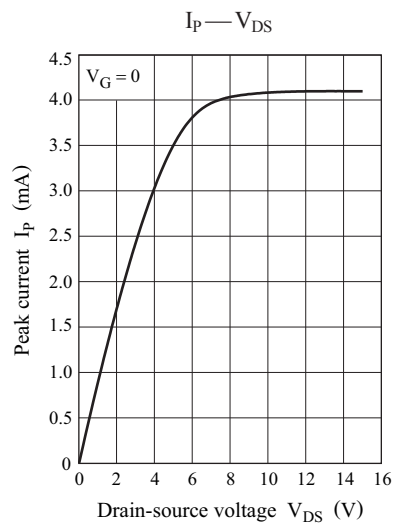


### Characteristics charts of Tr



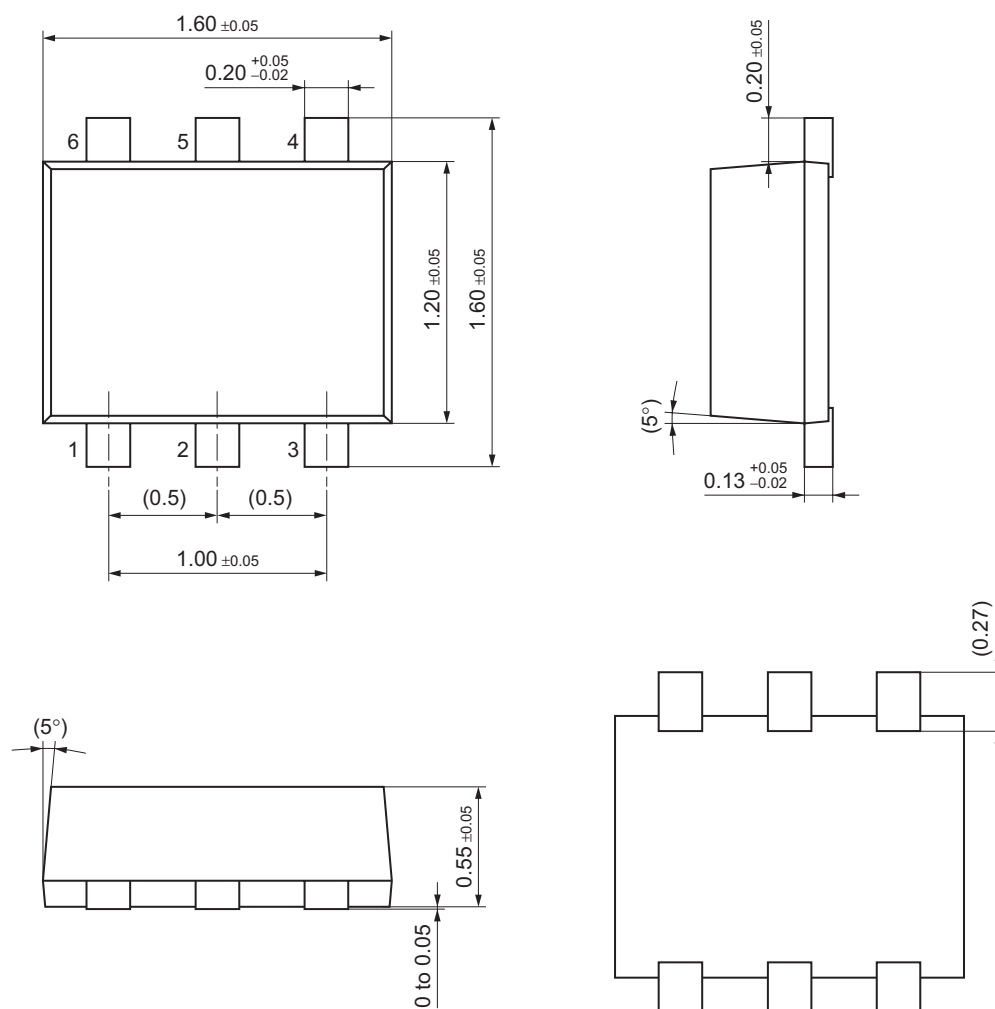


#### Characteristics charts of CCD load device



## SSMini6-F2

Unit: mm



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